LISTING OF CLAIMS

This listing of claims will replace any prior versions, and listings, of claims in the application:

1. (currently amended) An MRAM cell comprising:

a magnetic tunneling junction including

a free layer,

a pinned layer, and

a spacer layer disposed between the free layer and the pinned layer;

a digit line including a ~~bit~~ digit line segment disposed proximate to the magnetic tunneling junction;

a bit line including a bit line segment in electrical contact with the magnetic tunneling junction; and

a magnetic liner layer disposed entirely around the bit line segment and contacting the free layer.

2. (previously presented) The MRAM cell of claim 1 wherein the digit line segment is disposed proximate to the pinned layer and the bit line segment is in electrical contact with the free layer.

3. (previously presented) The MRAM cell of claim 1 wherein the bit line segment is disposed proximate to the pinned layer and the digit line segment is in electrical contact with the free layer.

4. (previously presented) The MRAM cell of claim 1 wherein the magnetic liner layer is electrically conductive.

5. (previously presented) The MRAM cell of claim 1 wherein the bit and digit lines are formed of a metal selected from the group consisting of Cu, W, and Al.

6. (previously presented) The MRAM cell of claim 1 further including an antiferromagnetic layer disposed adjacent to the pinned layer.

7. (previously presented) The MRAM cell of claim 1 wherein the magnetic liner layer is formed of Permalloy.

8. (previously presented) The MRAM cell of claim 7 wherein the Permalloy is between 16 and 22 atomic percent iron.

9. (previously presented) The MRAM cell of claim 7 wherein the Permalloy is $Ni_{81}Fe_{19}$.

10. (previously presented) The MRAM cell of claim 1 wherein the magnetic liner layer has a thickness of about 20Å to about 500Å.

11. (previously presented) The MRAM cell of claim 1 wherein the magnetic liner layer has a thickness of about 30Å to about 100Å.

12. (previously presented) The MRAM cell of claim 1 wherein the magnetic liner layer is formed of a material selected from the group consisting of CoZrCr, CoZrNb, CoZrRe, FeSiAl, FeN, FeAlN, FeRhN, and FeTaN.

13. (previously presented) The MRAM cell of claim 1 wherein the pinned layer is two ferromagnetic layers separated by a spacer layer.

14. (previously presented) The MRAM cell of claim 1 wherein the free layer is two ferromagnetic layers.

15. (currently amended) An MRAM cell comprising:

a magnetic tunneling junction including

a free layer having a magnetization orientation,

a pinned layer, and

an insulating spacer layer disposed between the free layer and the pinned layer;

a digit line including a segment disposed proximate to the pinned layer;

a bit line including a segment in electrical contact with the free layer;

a magnetic liner layer disposed entirely around the bit line segment and contacting the free layer such that a magnetic field encircles the bit line segment.

16. (previously presented) The MRAM cell of claim 15 wherein the magnetic liner layer is electrically conductive.

17. (previously presented) The MRAM cell of claim 15 wherein the bit and digit lines are formed of a metal selected from the group consisting of Cu, W, and Al.

18. (previously presented) The MRAM cell of claim 15 further including an antiferromagnetic layer disposed adjacent to the pinned layer.

19. (previously presented) The MRAM cell of claim 15 wherein the magnetic liner layer is formed of Permalloy.

20. (previously presented) The MRAM cell of claim 19 wherein the Permalloy is between 16 and 22 atomic percent iron.

21. (previously presented) The MRAM cell of claim 19 wherein the Permalloy is $Ni_{81}Fe_{19}$.

22. (previously presented) The MRAM cell of claim 15 wherein the magnetic liner layer has a thickness of about 20Å to about 500Å.

23. (previously presented) The MRAM cell of claim 15 wherein the magnetic liner layer has a thickness of about 30Å to about 100Å.

24. (previously presented) The MRAM cell of claim 15 wherein the pinned layer is two ferromagnetic layers separated by a spacer layer.

25. (previously presented) The MRAM cell of claim 15 wherein the free layer is two ferromagnetic layers.

26. (currently amended) An MRAM cell comprising:

a magnetic tunneling junction including

a free layer,

a pinned layer, and

an insulating spacer layer disposed between the free layer and the pinned layer;

a digit line including a segment disposed proximate to the pinned layer, the digit line segment having a long axis defining a first direction;

an electrically insulating spacer layer disposed between the digit line segment and the pinned layer;

a bit line including a segment in electrical contact with the free layer, the bit line segment having a long axis defining a second direction substantially perpendicular to the first direction;

a magnetic liner layer disposed entirely around the bit line segment and contacting the free layer.

27. (previously presented) The MRAM cell of claim 26 wherein the magnetic liner layer is electrically conductive.

28. (previously presented) The MRAM cell of claim 26 wherein the bit and digit lines are formed of a metal selected from the group consisting of Cu, W, and Al.

29. (previously presented) The MRAM cell of claim 26 further including an antiferromagnetic layer disposed adjacent to the pinned layer.

30. (previously presented) The MRAM cell of claim 26 wherein the magnetic liner layer is formed of Permalloy.

31. (previously presented) The MRAM cell of claim 30 wherein the Permalloy is between 16 and 22 atomic percent iron.

32. (previously presented) The MRAM cell of claim 30 wherein the Permalloy is $Ni_{81}Fe_{19}$.

33. (previously presented) The MRAM cell of claim 26 wherein the magnetic liner layer has a thickness of about 20Å to about 500Å.

34. (previously presented) The MRAM cell of claim 26 wherein the magnetic liner layer has a thickness of about 30Å to about 100Å.

35. (previously presented) The MRAM cell of claim 26 wherein the pinned layer is two ferromagnetic layers separated by a spacer layer.

36. (previously presented) The MRAM cell of claim 26 wherein the free layer is two ferromagnetic layers.

37 - 48. (cancelled)

49. (currently amended) An MRAM cell comprising:

a magnetic tunneling junction including

a free layer,

a pinned layer, and

an insulating spacer layer disposed between the free layer and the pinned layer;

a digit line including a segment disposed proximate to the pinned layer, the digit line segment having a long axis defining a first direction;

a bit line including a bit line segment in electrical contact with the free layer and having a long axis defining a second direction substantially perpendicular to the first direction; and

a magnetic sheath disposed entirely around the bit line segment and ~~formed from~~ magnetically coupled to the free layer ~~and a magnetic liner layer~~.

50. (previously presented) The MRAM cell of claim 49 wherein the magnetic liner layer is electrically conductive.

51. (previously presented) The MRAM cell of claim 49 wherein the bit and digit lines are formed of a metal selected from the group consisting of Cu, W, and Al.

52. (previously presented) The MRAM cell of claim 49 further including an antiferromagnetic layer disposed adjacent to the pinned layer.

53. (previously presented) The MRAM cell of claim 49 wherein the magnetic liner layer is formed of Permalloy.

54. (previously presented) The MRAM cell of claim 53 wherein the Permalloy is between 16 and 22 atomic percent iron.

55. (previously presented) The MRAM cell of claim 53 wherein the Permalloy is $Ni_{81}Fe_{19}$.

56. (previously presented) The MRAM cell of claim 49 wherein the magnetic liner layer has a thickness of about 20Å to about 500Å.

57. (previously presented) The MRAM cell of claim 49 wherein the magnetic liner layer has a thickness of about 30Å to about 100Å.

58. (previously presented) The MRAM cell of claim 49 wherein the pinned layer is two ferromagnetic layers separated by a spacer layer.

59. (previously presented) The MRAM cell of claim 49 wherein the free layer is two ferromagnetic layers.

60 - 88. (cancelled)